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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/879,821	06/11/2001	Gregory A. Fish	GC-122.3-US-U1	3464

7590 07/30/2003  
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EXAMINER

LANDAU, MATTHEW C

ART UNIT PAPER NUMBER

2815

DATE MAILED: 07/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/879,821

Applicant(s)

FISH ET AL.

Examiner

Matthew Landau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 4-10, 13-16 and 20-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 11, 12 and 17-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 23 January 2003 is: a) ☐ approved b) ☒ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION*****Election/Restrictions***

Applicant's election with traverse of Invention I, claims 1-3, 11, 12, and 17-19 in Paper No. 14 is acknowledged. The traversal is on the ground(s) that no serious burden exists since "a search of the prior art covering both apparatus and method claims of the present invention has already been performed...". This is not found persuasive because a search and examination for the presently amended claims, including newly added claims 11-29, was not been performed prior to the first Office Action. Furthermore, a burden exists since the search for the method step of "generating a sampling function that, when applied to the reflector, results in a substantially close fit..." is not required in the search for the device of Invention I.

The requirement is still deemed proper and is therefore made FINAL.

Claims 4-10, 13-16, and 20-29 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 14.

This application contains claims 4-10, 13-16, and 20-29 drawn to an invention nonelected with traverse in Paper No. 14. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

***Drawings***

The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on January 23, 2003 have been disapproved. A proper drawing correction or corrected drawings

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are required in reply to the Office action to avoid abandonment of the application. The correction to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because numerous reference sign(s) not mentioned in the description, for example:  $L_B$  and  $\Lambda$ . A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Specification*

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The specification lacks antecedent basis for many of the limitations in claims 1, 2, 3, and 17. For example, there is no antecedent basis for the limitations “a sampled grating including a plurality of sample grating portions comprising a first phase separated from each other by portions with no grating”, “the second phase substantially opposite that of said first phase”, and “configured to maximize a coupling constant ( $\kappa$ ) substantially evenly”.

### *Claim Objections*

Claims 1, 2, and 17 are objected to because of the following informalities:

In regards to claim 1, the limitation “at the beginning of” is objected to because it is unclear if the first grating portion part of or spaced apart from the first grating portion. Also, it is unclear how a grating can comprise a phase. It is understood that a grating can affect the phase

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of light incident on the grating, but the grating itself does not actually “comprise” a phase.

Claims 2 and 17 have similar problems.

In regards to claim 2, it is unclear what is meant by a phase being opposite another phase.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3, 11, 12, and 17-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In regards to claim 1, the limitation “a sampled grating including a plurality of sampled grating portions comprising a first phase separated from each other by portions with no grating” renders the claim indefinite. It is unclear how a portion of a grating can have no grating. If it doesn’t have a grating, how can it be called a “sampled *grating*” (emphasis added)? What distinguishes the “plurality of sampled grating portions” from the “portions with no grating”? Note that claim 17 has similar problems.

In regards to claim 3, the limitation “maximize a coupling constant substantially evenly across a selected tuning range” renders the claim indefinite. It is unclear how something can be maximized evenly. Maximized implies taking on a maximum value. If the value is adjusted to align with another value, then it can no longer be considered maximized. Does Applicant intend to claim that the maximum values for the coupling constant are uniform across a tuning range?

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Further regarding claim 17, it is unclear how a sampled grating portion can have a first phase and a second phase.

In regards to claim 19, it is unclear what is meant by the limitation "reverse phase".

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 3, 12, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Huang (US Pat. 6,330,268).

In regards to claim 1, as best the examiner can ascertain the claimed invention, Figure 10 of Huang discloses a reflector comprising: a sampled grating including a plurality of sampled grating portions (66,68,70) comprising a first phase separated from each other by portions with no grating (74,76); and a first grating burst portion 64 at the beginning of a first sample grating portion 66 of the sampled grating and comprising a second phase being different from different from the first phase. Since region 72 (which separates the burst portion 64 and the first grating portion 66) is a phase shift section (column 12, lines 50-55), it is considered that the plurality grating portions has a first phase different from the second phase.

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In regards to claim 2, as best the examiner can ascertain the claimed invention, Huang discloses the second phase is substantially opposite that of said first phase of said sampled grating.

In regards to claim 3, as best the examiner can ascertain the claimed invention, Figure 10 of Huang discloses the first sampled grating portion 66 and the first grating burst portion 64 are spaced apart and configured to maximize a coupling constant substantially evenly across a selected tuning range.

In regards to claim 12, Figure 10 of Huang discloses the first grating burst portion 64 is spaced apart from the first sampled grating portion 66 by a spacing 72 with no grating.

In regards to claim 17, as best the examiner can ascertain the claimed invention, Figure 10 of Huang discloses a reflector comprising: a sampled grating including a plurality of sampled grating portions (66,68,70) separated from each other by portions with no grating (74,76); wherein the sampled grating portions each have a first phase and a second phase.

Claims 1, 2, 3, 12, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Huang et al. (US Pat. 5,715,271, hereinafter Huang'271).

In regards to claim 1, as best the examiner can ascertain the claimed invention, Figure 1 of Huang'271 discloses a reflector comprising: a sampled grating including a plurality of sampled grating portions comprising a first phase separated from each other by portions with no grating; and a first grating burst portion (leftmost grating section) at the beginning of a first sample grating portion of the sampled grating and comprising a second phase being different from different from the first phase.

In regards to claim 2, as best the examiner can ascertain the claimed invention, Huang'271 discloses the second phase is substantially opposite that of said first phase of said sampled grating.

In regards to claim 3, as best the examiner can ascertain the claimed invention, Figure 1 of Huang'271 discloses the first sampled grating portion 66 and the first grating burst portion 64 are spaced apart and configured to maximize a coupling constant substantially evenly across a selected tuning range.

In regards to claim 12, Figure 1 of Huang'271 discloses the first grating burst portion is spaced apart from the first sampled grating portion by a spacing with no grating  $L_s$ .

In regards to claim 17, as best the examiner can ascertain the claimed invention, Figure 1 of Huang'271 discloses a reflector comprising: a sampled grating including a plurality of sampled grating portions separated from each other by portions with no grating; wherein the sampled grating portions each have a first phase and a second phase.

In regards to claim 19, as best the examiner can ascertain the claimed invention, Figure 1 of Huang'271 discloses the sampled grating portions reverse phase at a beginning and an end of each sampled grating portion.

***Allowable Subject Matter***

Claims 11 and 18 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.



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The following is a statement of reasons for the indication of allowable subject matter: the prior art of record, either singularly or in combination, does not disclose or suggest at least the limitation of "the portions with no grating occupy more than 70% of the reflector".

### *Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew C. Landau whose telephone number is (703) 305-4396.

The examiner can normally be reached from 8:00 AM-4:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on (703) 308-1690. The fax phone numbers for the organization where this application or

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proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for

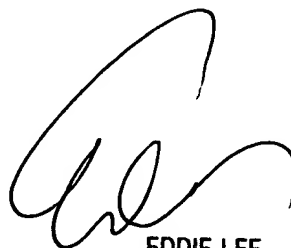
After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Matthew C. Landau

Examiner

July 16, 2003

A handwritten signature in black ink, appearing to read 'Eddie Lee', with a large, sweeping initial 'E'.

EDDIE LEE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800